

REMARKS/ARGUMENTS

This Amendment is submitted in reply to the Final Office Action dated June 1, 2007, and within the TWO MONTH period for reply extending to August 1, 2007.

Claims 1-22, 24, 34, and 42-52 are cancelled.

5 Claims 23, 25-33, and 35-41 remain pending in the application after entry of this Amendment.

Rejections Under 35 U.S.C. 103

The Office has made the following statement of rejection: "Claims 23, 25-28, 31-
10 33, 35-38 are rejected under 35 U.S.C. 102(b) as being anticipated by Sandaiji et al. (U.S.
Patent No. 4,982,065) in view of Kelly et al. (U.S. Patent No. 6,524,663)." On July 23,
2007, the Applicants contacted the examiner requesting clarification of this statement of
rejection. The Examiner replied to the Applicants' agent (Kenneth D. Wright) by voice
mail on July 23, 2007, stating that the above-identified statement of rejection was
15 intended to be an obviousness rejection under 35 U.S.C. 103(a). Therefore, claims 23, 25-
28, 31-33, and 35-38 were rejected under 35 U.S.C. 103(a) as being unpatentable over
Sandaiji et al. ("Sandaiji" hereafter) (U.S. Patent No. 4,982,065) in view of Kelly et al.
("Kelly" hereafter) (U.S. Patent No. 6,524,663). These rejections are traversed.

Each of independent claims 23 and 31 recites the following:

20 "wherein the radiant energy source is designed to generate radiant energy having a
wavelength range that is capable of selectively heating a first material present at a surface
of the wafer upon which the radiant energy is incident without causing a second material
near the first material to be substantially heated by the radiant energy, the selective
heating of the first material in exposure to the electroless plating solution enabling an
25 electroless plating reaction on the first material."

In applying the combination of Sandaiji and Kelly to reject independent claims 23 and 31, the Office has made the following statements with regard to Sandaiji:

"the radiant energy source (8) is configured to generate radiant energy having a wavelength range that is capable of selectively heating a material present at a surface of the wafer upon which the radiant energy will be incident (see col. 8, lines 15-40, col. 9, lines 18-38) in exposure to the solution enabling a reaction (see col. 8, lines 15-40, col. 9, lines 18-38)."

The Office has also made the following contradictory statement with regard to Sandaiji:

10 "However, the reference does not clearly teach radiant energy source designed to generate energy having a wavelength range."

Unfortunately, as indicated above, the Office's position with regard to the teachings of Sandaiji is not clearly conveyed to the Applicants. The Office seems to take the position that the radiant energy source, i.e., laser beam (8), of Sandaiji is disclosed as being configured to generate radiant energy having a wavelength range that is capable of selectively heating a material present at a surface of the wafer upon which the radiant energy will be incident in exposure to the solution, thereby enabling a reaction. However, the Office also states that Sandaiji does not clearly teach that the radiant energy source, i.e., laser beam (8), is designed to generate energy having a wavelength range.

20 Due to the Office's seemingly contradictory position with regard to the teachings of Sandaiji, as related to the radiant energy source recited in each of claims 23 and 31, the Applicants must again address how Sandaiji's teachings with regard to the laser beam (8) fail to teach the features of claims 23 and 31. Sandaiji's teachings with regard to the wavelength design of the laser source is limited to that disclosed at column 7, lines 58-65.

25 Specifically, Sandaiji states the following:

"As a laser source, various lasers can be employed. However, in view of the high absorption in a wavelength of 1 micron or less of ferrite and Sendust, preferably used is a laser source, such as a second harmonics of YAG laser or Ar ion laser, or the like, which has an excellent oscillation stability and a small diverging angle of 5 laser light."

Sandaiji does not teach that the laser source is designed to generate laser light capable of selectively heating a first material present on the surface of the gapped bar without causing a second material near the first material to be substantially heated by the laser light. Rather, Sandaiji is concerned with heating the gapped bar at the point of 10 incidence of the laser light without regard to the particular material present on the gapped bar at the point of incidence of the laser light. Moreover, Sandaiji (column 5, lines 60-64) teaches that the gapped bar is made of a single material, e.g., ferrite, Sendust, or the like. Thus, the above-identified teachings of Sandaiji with regard to the wavelength of the laser 15 light indicates that Sandaiji is concerned with optimal absorption of the laser light by the gapped bar without discrimination based on the particular material present on the gapped bar surface at the point of incidence of the laser light. Consequently, Sandaiji does not teach a radiant energy source designed to generate radiant energy having a wavelength range that is capable of selectively heating a first material present at a surface of the wafer upon which the radiant energy is incident without causing a second material near the first 20 material to be substantially heated by the radiant energy, as recited in each of claims 23 and 31.

Further, in applying the combination of Sandaiji and Kelly to reject independent claims 23 and 31, the Office has made the following statements with regard to Kelly:

"Kelly et al. teaches radiant energy source is designed to generate radiant energy 25 having a wavelength range (see col. 4, lines 44-67, col. 5, lines 1-60)."

While the Office has asserted that Kelly teaches a radiant energy source designed to generate radiant energy having a wavelength range, the Office has not indicated how Kelly teaches a radiant energy source designed to generate radiant energy having a wavelength range that is capable of selectively heating a first material present at a surface of the wafer upon which the radiant energy is incident without causing a second material near the first material to be substantially heated by the radiant energy, wherein the selective heating of the first material in exposure to the electroless plating solution enables an electroless plating reaction on the first material.

Kelly (column 6, lines 18-21) teaches that exposure of a surface activation compound to ultraviolet radiation weakens the metal-carbon bond which allows subsequent cleaving or decomposition of the compound to the underlying metal. Kelly (column 5, lines 33-37) teaches that the compound decomposes to the underlying metal in the presence of the ultraviolet radiation of an appropriate wavelength and when the compound is at a certain temperature. Kelly (column 5, lines 37-39) further teaches that the compound does not decompose at the certain temperature in the absence of the ultraviolet radiation. Thus, Kelly teaches that the temperature of the surface activation compound is controlled separately from the ultraviolet radiation to which the compound is exposed. Furthermore, Kelly does not include a teaching that the ultraviolet radiation serves to selectively heat the surface activation compound.

Considering the foregoing, it should be understood that Kelly teaches that the temperature of the compound is controlled separately from the exposure of the compound to the ultraviolet radiation. Additionally, it should be acknowledged that Kelly is devoid of a teaching with regard to the ultraviolet radiation causing the compound material, or any other material for that matter, to be selectively heated. Therefore, with regard to claims 23 and 31, the Applicants submit that the ultraviolet radiation source of Kelly does not teach a radiant energy source designed to generate radiant energy having a wavelength

range that is capable of selectively heating a first material present at a surface of the wafer upon which the radiant energy is incident without causing a second material near the first material to be substantially heated by the radiant energy, such that the selective heating of the first material in exposure to the electroless plating solution enables an electroless plating reaction on the first material.

5 In view of the foregoing analysis of the combined teachings of Sandaiji and Kelly, the Applicants submit that the combination of Sandaiji and Kelly fails to teach the following feature of each of independent claims 23 and 31:

"wherein the radiant energy source is designed to generate radiant energy having a wavelength range that is capable of selectively heating a first material present at a surface of the wafer upon which the radiant energy is incident without causing a second material near the first material to be substantially heated by the radiant energy, the selective heating of the first material in exposure to the electroless plating solution enabling an electroless plating reaction on the first material."

10 To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). Based at least on the foregoing discussion, the Applicants submit that the combination of Sandaiji and Kelly fails to teach each and every feature of claims 23 and 31, respectively, as required to support a rejection under 35 U.S.C. 103. Therefore, the Applicants submit that each of claims 23 and 31 is patentable over the combination of Sandaiji and Kelly. The Office is kindly requested to withdraw the rejections of claims 23 and 31 under 35 U.S.C. 103.

15 20 25 Because a dependent claims incorporates each and every feature of its independent claim, the dependent claim is patentable for at least the same reasons as its independent

claim. Therefore, the Applicants submit that each of dependent claims 25-28, 32-33, and 35-38 is patentable for at least the same reasons as its independent claim. The Office is kindly requested to withdraw the rejections of claims 25-28, 32-33, and 35-38 under 35 U.S.C. 103.

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Claims 29-30, 33, and 39-41 were rejected under 35 U.S.C. 103(a) as being unpatentable over Sandaiji in view of Kelly, and further in view of Mayer et al. ("Mayer" hereafter) (U.S. Patent No. 6,713,122). These rejections are traversed.

Because a dependent claims incorporates each and every feature of its independent 10 claim, the dependent claim is patentable for at least the same reasons as its independent claim. Therefore, the Applicants submit that each of dependent claims 29-30, 33, and 39-41 is patentable for at least the same reasons as its independent claim. The Office is kindly requested to withdraw the rejections of claims 29-30, 33, and 39-41 under 35 U.S.C. 103.

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Response to Non-Statutory Double Patenting Rejection

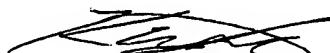
Claims 23, 25-33, and 35-41 were provisionally rejected on the ground of non-statutory obviousness-type double patenting as being unpatentable over claims 1-9 and 21-27 of U.S. Patent Application No. 10/734,704. These rejections are traversed.

20 In the event that U.S. Patent Application No. 10/734,704, issues prior to the present application, and the provisional non-statutory obviousness-type double patenting rejection is made non-provisional, the Applicants will address the propriety of the rejection with regard to the claims that issue forth from U.S. Patent Application No. 10/734,704.

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The Applicants respectfully submit that all of the pending claims are in condition for allowance. Therefore, a Notice of Allowance is requested. If the Examiner has any questions concerning the present Amendment, the Examiner is kindly requested to contact the undersigned at (408) 774-6914. Also, if any additional fees are due in connection with filing this Amendment, the Commissioner is authorized to charge Deposit Account No. 50-0805 (Order No. LAM2P458). A duplicate copy of the transmittal is enclosed for this purpose.

Respectfully submitted,
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